REMARKS

Applicant has amended claim 1 and 16; claims 4 and 18-20 were previously cancelled; and claims 21-24 were previously added. Thus, claims 1-3, 5-17, and 21-24 are pending in the application and presented for examination. Applicant respectfully requests allowance of the present application in view of the foregoing amendments and the following remarks.

Response To Rejections Under Section 112:

The Examiner indicates that Claims 1-17 and 21-24 (the Applicant notes that claim 4 was previously cancelled) stand rejected under 35 U.S.C. § 112, second paragraph, the Examiner stating that the language therein is indefinite, asking how "can a seal assembly have the blade." The Examiner indicates that examination has been directed only to a seal assembly. The Applicant respectfully submits that the claimed invention, as suspected by the Examiner, does not include a blade; Claim 1 has been re-worded to improve clarity and to more distinctly define the scope of the invention. The Applicant respectfully requests withdrawal of the § 112 rejection.

Response To Rejections Under Section 102:

The Examiner indicates that Claims 1-20 (the Applicant notes that claims 4 and 18-20 were previously cancelled; the Applicant also notes that the Examiner makes additional specific rejections of claims 20-24) stand rejected under 35 U.S.C. § 102(b), the Examiner contending that these claims are anticipated by U.S. Patent No. 6,261,053 to Anderson et al. ("Anderson"). The Applicant disagrees, respectfully submitting that, as discussed below, the Examiner has misapplied the Anderson reference. As shown most clearly in Figures 7 and 8, Anderson relates to cooled gas turbine blade platform sections, not an outer air seal assembly, as is presently claimed. However, as discussed below, even if the teachings of Anderson are applied

to an outer air seal, as suggested by the Examiner, Anderson does not teach or suggest the presently-claimed invention.

Anderson is a cooled platform arrangement for gas turbine component segments, in particular segments arranged next to one another. To provide increased part life, Anderson provides a design that incorporates a simple method of reducing thermal loading of these critical component segments. In particular, Anderson teaches a segment design in which segment edges subjected to a hot gas stream are set back from the hot gas stream, so as to reduce the thermal loading by impinging hot-gas stream (see, e.g., Anderson at Col. 1, Lines 59-62); in keeping with this goal, Anderson additionally specifically seeks to avoid protruding steps located along edges of the inter-segment gap (see Anderson at Col. 2, Lines 5-11). In some versions of the Anderson device, set back edges are actually beveled or rounded off (Anderson Col. 2., Lines 12-15). It is noted that the location of beveled edges may shift along the longitudinal length of the Anderson segments (see Anderson Fig. 3) to accommodate shifting hot gas flow direction (see Anderson at Col. 2, Lines 26-49 and Fig. 7). However, even though beveled edge location may vary, edges acted upon by the hot-gas stream remain rounded off, and the formation of protruding steps is avoided. It is also noted that in certain aspects of the Anderson device (see Col. 10, Lines 1-25), adjacent platform segments may include gap-facing sections having a variable-depth, curved recess 58 (the Examiner incorrectly refers to the roughly-parabolic recess 58 as the "gap 58" – the interface "gap" is actually a separate element which Anderson identifies by references numerals 12 and 12'). The curved recess 58 may be characterized as having a radially-skewed portion which enhances cooling performance by directing a cooling air stream (60) out of the gap (12) at a segment surface (22) essentially parallel to the hot-gas stream (40). With this arrangement, the Anderson gap edges reduce undesirable vortices and deliver a protective cooling-air film. However, even in this embodiment, the parabolic recess 58 is located entirely within the platform segment 20 and

radially-skewed portions are set back from the radially-aligned plane of the gap-facing edge, so as to avoid formation of protruding steps along the edges facing the gap, in accordance with Anderson's teachings.

In sharp contrast, the claimed invention is a seal assembly for reducing leakage proximate a turbine engine blade tip having a predetermined direction of rotation. In particular, the claimed invention includes at least one pair of adjacent seal segments spaced apart from each other by an interface gap, with one of the segments having a radially-aligned portion and a radially-skewed portion that extends beyond the plane of the radially-aligned portion, protruding substantially across the interface gap to cooperatively form a radially-skewed portion of said interface gap. With this arrangement, the claimed interface gap edge radially-skewed portions are adapted to reduce radially-directed pulse loading tendencies of a fluid passing radially away from a blade and through the interface gap. Unlike Anderson, the claimed seal assembly has a first member second edge skewed portion that extends beyond the plane of the radially-aligned portion of the first member second edge. This second edge skewed portion protrudes substantially across the radially-aligned portion of the interface gap and would block radially-directed pulse loads tending to pass through the interface gap – no such feature is taught or suggested by Anderson.

Although, as noted above, Anderson includes an interface gap having radially-aligned and radially-skewed portions, Anderson does not teaches nor suggest a seal assembly segment having an edge with a radially-skewed portion that extends beyond the radially-aligned plane of the edge and which protrudes substantially across the interface gap. Such a protrusion is contrary to the teachings of Anderson which, as discussed above, teaches to round off hot-gas-engaging edges and to avoid formation of protruding steps. None of the Anderson embodiments include the presently-claimed skewed portions that extend beyond the radially-aligned edge portions to block radially-directed fluid flow passing between gap-facing segments

(see, for example, Anderson Figs. 9, 10, 12, 13, and/or 14). In fact, in most Anderson embodiments, at least one segment edge is beveled away from the gap to avoid edges that may deflect the hot-gas stream. As a result, although Anderson may reduce thermal loading of parts to provide increased part life, Anderson simply does not, as apparently suggested by the Examiner, have radially-skewed edge portions adapted to cooperatively reduce radially-directed pulse loading tendencies of a fluid passing radially away from a blade and through assembly interface gaps.

In view of the above, independent claims 1 and 16 are patentable. Dependent claims 2-15, and 21-24 are also patentable at least based on their dependency from their respective base claims, as well as based on their own merit. Therefore, Applicant respectfully requests that the Examiner withdraw the Section 102 rejection.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that the objections and rejections set forth in the outstanding Office Action are inapplicable to the present claims and specification. Accordingly, the Applicant respectfully requests that the Examiner reconsider the objections and rejections and timely pass the application to allowance.

The undersigned has made a good faith effort to respond to all of the objections and rejections in the application and to place the claims in condition for allowance. Should the Examiner have any questions concerning this paper or application, or if any undeveloped issues or questions remain, the Examiner is respectfully requested to contact Applicant's undersigned attorney to resolve such issue or question. All correspondence should continue to be directed to our below-listed address.

Please grant any extensions of time required to enter this paper. The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

Dated: 9/28/07 By: _____

Erik C. Swanson
Registration No. 40,194
(407) 736-5602

Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, New Jersey 08830